

REMARKS

The following remarks are responsive to the Final Office Action dated March 25, 2004.

Applicants thank the Examiner for the careful examination given to this application.

Claims 1-2, 9, 10, 17, 18, 25, 35, 37, and 47 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,052,411 to Mueller et al. ("Mueller").

Claims 3-6, 11-14, 19-22, 26-33, and 38-45 stand rejected under Mueller in view of U.S. Patent No. 6,560,197 to Le Vieux et al. ("Le Vieux") as allegedly being unpatentable under 35 U.S.C. § 103(a). This is a new grounds of rejection first presented in the Final Office Action.

Claims 7, 8, 15, 16, 23, 24, 34, 36, 46, and 48 stand rejected under Mueller in view of U.S. Patent 6,108,350 to Araujo et al. ("Araujo") as allegedly being unpatentable under 35 U.S.C. § 103(a). This is a new grounds of rejection first presented in the Final Office Action.

Solely for the purpose of facilitating allowance of this application, Applicants have amended claims 1, 3, 7, 8-9, 11, 14-16, 17, 19, 22-25, 29-35, 37-38, and 41-47. Support for these amendments can be found at least on page 7, line 32 to page 8, line 24 of Applicants' disclosure. Applicants, however, do not concede the subject matter of the claims prior to amendment and reserve their right to pursue such subject matter in one or more continuation applications.

35 U.S.C. § 102(e) Rejection - Mueller

Applicants respectfully submit that Mueller fails to disclose each and every element of claims 1-2, 9, 10, 17, 18, 25, 35, 37, and 47 under 35 U.S.C. § 102(e) and, therefore, cannot anticipate those claims.

Regarding independent claim 1, one limitation missing in Mueller is the claimed controller that "detects whether the DSL transceiver has not received valid data over the DSL

channel for a first predetermined period of time indicating an idle period and detects expiration of a second period of time triggering an end of the idle period." Instead, Mueller discloses a transmitter that sends a single modulated symbol indicating an idle period and a separate modulated symbol to indicate an end of idle period. (Mueller, Col. 2, ll. 35-46). Thus, Mueller at least fails to disclose using first and second predetermined periods of time to indicating an idle period and triggering an end of the idle period, as recited in claim 1.

Similar to independent claim 1, independent claims 9, 17, 25 and 37 recite using a first period of time indicating an idle period and a second period of time or a sleep period triggering an end of the idle period. For example, claim 9 recites a method having a step for "detecting the reception of non-valid data over the DSL channel for a first predetermined period of time indicating an idle period and expiration of a second period of time triggering an end of the idle period." Claim 17 recites a system having a "means for detecting reception of non-valid data over the DSL channel for a first predetermined period of time indicating an idle period and expiration of a second period of time triggering an end of the idle period." Claim 25 recites a system having "a data traffic detector that detects whether no data traffic is transmitted over the DSL channel indicating an idle period and whether a sleep period has expired triggering an end of the idle period." Claim 37 recites a method having a step for "omitting a plurality of processing for responding to the data traffic if there is no data traffic over the DSL channel for a first period of time indicating an idle period and resuming the omitted processing if a second time period expires triggering an end of the idle period."

As noted above, Mueller discloses a transmitter that sends a single modulated symbol indicating an idle period and a separate modulated symbol to indicate an end of idle period. (Mueller, Col. 2, ll. 35-46). Accordingly, Mueller fails to disclose at least the above limitations

of claims 1, 9, 17, 25, and 37, and those claims are thus patentable over Mueller. Given that claims 2-8, 10-16, 18-24, 26-36, and 38-48 depend on claims 1, 9, 17, 25, and 37, respectively, those dependent claims are patentable over Mueller for at least the same reasons as their respective independent claims.

35 U.S.C. § 103(a) Rejection - Mueller and Le Vieux

The Examiner rejected claims 3-6, 11-14, 19-22, 26-33, and 38-45 as allegedly being unpatentable over Mueller in view of Le Vieux under 35 U.S.C. § 103(a). These claims are dependent on independent claims 1, 9, 17, 25, and 37. Applicants respectfully submit that Mueller in view of Le Vieux fails to render independent claims 1, 9, 17, 25, and 37 and any of their dependent claims unpatentable under § 103(a).

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), each of three requirements must be met. First, the references, taken alone or in combination, must teach or suggest each and every element recited in the claims. See M.P.E.P. § 2143.03 (8th ed. 2001). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of these requirements must "be found in the prior art, and not be based on applicant's disclosure." M.P.E.P. § 2143 (8th ed. 2001).

Neither Mueller nor Le Vieux individually or in combination disclose or suggest each and every limitation of the claims. As noted above, Mueller fails to disclose or suggest each and every limitation of claims 1, 9, 17, 25, and 37. Le Vieux fails to cure the deficiencies of Mueller.

Similar to Mueller, Le Vieux discloses transmitting a single modulated symbol to indicate an idle period and a separate modulated symbol to indicate the end of the idle period.

(Le Vieux, Col. 2, ll. 39-47). Thus, Le Vieux also fails to disclose or suggest using a first predetermined period of time to indicate an idle period and a second predetermined period of time or sleep period to indicate an end of the idle period, as recited in claims 1, 9, 17, 25, and 37.

Moreover, there is no teaching, suggestion, or motivation for one skilled in the art to modify the teachings of Mueller and Le Vieux achieve the claimed combination of claims 1, 9, 17, 25, and 37. Therefore, claims 1, 9, 17, 25, and 37 are patentable over Mueller in view of Le Vieux. Since claims 3-6, 11-14, 19-22, 26-33, and 38-45 depend from claims 1, 9, 17, 25, and 37, respectively, claims 3-6, 11-14, 19-22, 26-33, and 38-45 are patentable for the same reasons as their respective independent claims.

35 U.S.C. § 103(a) Rejection - Mueller and Araujo

The Examiner rejected claims 7, 8, 15, 16, 23, 24, 34, 36, 46, and 48 as allegedly being unpatentable over Mueller in view of Araujo under 35 U.S.C. § 103(a). These claims are dependent on independent claims 1, 9, 17, 25, and 37. Applicants respectfully submit that Mueller in view of Araujo fails to render independent claims 1, 9, 17, 25, and 37 and any of their dependent claims unpatentable under § 103(a).

Neither Mueller nor Araujo individually or in combination disclose or suggest each and every limitation of the claims. As noted above, Mueller fails to disclose or suggest each and every limitation of claims 1, 9, 17, 25, and 37.

Araujo also fails to cure the deficiencies of Mueller. Araujo discloses an intermediate device detecting a protocol used by an end station and configuring a link to use the detected protocol. (Araujo, Abstract, Col. 2, l. 63 to Col. 3, l. 7). Accordingly, Araujo fails to disclose or suggest using a first period of time indicating an idle period and a second period of time or sleep period triggering an end of the idle period, as recited in claims 1, 9, 17, 25, and 37.

Moreover, there is no teaching, suggestion, or motivation for one skilled in the art to modify the teachings of Mueller and Araujo to achieve the claimed combination of claims 1, 9, 17, 25, and 37. Therefore, claims 1, 9, 17, 25, and 37 are patentable over Mueller in view of Araujo. Since claims 7, 8, 15, 16, 23, 24, 34, 36, 46, and 48 depend from claims 1, 9, 17, 25, and 37, respectively, claims 7, 8, 15, 16, 23, 24, 34, 36, 46, and 48 are patentable for the same reasons as their respective independent claims.

New Claims

Applicants further submit that the new claims 49-51 are not rendered unpatentable over Mueller, Le Vieux, and Araujo, individually or in combination, under 35 U.S.C. § 102 or § 103. Claim 49 recites a communication device having a controller "to perform a plurality of operations for processing valid data or non-valid data and to omit some of the operations if non-valid data is received for a first period of time indicating an idle period." In contrast, Mueller and Le Vieux disclose transmitting a single modulated symbol to indicate an idle period instead receiving non-valid data for a first period of time, as recited in claim 49. Furthermore, Araujo discloses an intermediate device detecting a protocol used by an end station and configuring a link to use the detected protocol. Accordingly, new claims 49-51 are patentable over Mueller, Le Vieux, and Araujo.

Conclusion

In view of the above amendments and remarks, Applicants respectfully submit that claims 1-51 are patentable over the prior art of record, and request the Examiner to place this application in a condition for allowance.

If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact S. H. Michael Kim at (650) 849-6680.